13 December 1961

TO: President, Police and Firemen's Benefit Society

FROM:

SUBJECT: Request for Re-evaluation of Classification of Firemen Working as Inspectors:

In the past year both the Police and Firemen's Benefit Society and Management have attempted to negotiate for a separate classification for firemen working as Fire Inspectors, with no final disposition being rendered. It is now requested by the writers that negotiations be reopened to have a final disposition made. The writers realize that in the past negotiations a full and complete list of duties and assignments were not properly submitted to the Police and Firemen's Benefit Society for presentation to management. It is at this time we wish to present to you a complete list of duties with comments as to our value to the company. We do not wish to compare our duties to anyone or group of people in our department or to infer that we are in any way indispensable, but rather to explain why we feel that we do justify a classification change. This letter is not meant to degrade or infer that members of supervision are lax in any way or that we are doing their work, but rather to tell you what is expected of Firemen assigned to the Fire Inspection Section. Following is a list of assignments and duties which we perform:

At present the Fire Inspection Section has two Firemen working as Inspectors under the supervision of one Lieutenant, J. S. Gurican and E. I. Webb are presently assigned to the Inspection Section, working for Lt. E. G. Addeo. Our duties consist of:

Fire and Safety Inspection of Large Engine test area, Components test areas, warehouses, Maintenance Areas, Office Areas, Solid Propellant Areas, Explosive Storage Areas, and Propellant Storage Areas. These inspections include inspection of housekeeping, firex systems, first aid firex equipment, safety equipment (showers, blankets, exits, aisles, etc.), vent lines, fill lines, storage tanks, trucks, tank trailers, electrical outlets and lines, pressure lines, relief valves, and any and all equipment used by personnel at PTL. We inspect storage of flammable liquid dispensing areas for compliance with the California Industrial Safety Codes and Rocketdyne's Standards. Inspection of explosive storage magazines which consists of compatibility storage of explosives.

Our duties call for report writing on any incident concerning fire prevention and safety, toxic vapor incidents, recommendations for fire prevention and personnel safety.

We give demonstrations on safe handling of rocket propellants. This demonstration consists of physically demonstrating the hazards connected with rocket propellants.

The Fire Inspectors compiled a training book for the Rocketdyne Fire Department. This book consists of 62 pages and has been accepted by the Fire Department as an official training book on any hazardous propellant used at Rocketdyne. This book is in great demand, originally 18 copies were made, now over 200 books have been made and distributed by the Fire Inspection Section. This was the direct result of the Firemen working as Inspectors. The research, typing, ditto work, and correlating was done by the Inspectors. The Inspectors are assigned the work of chemical disposal. During a 20 month period from December 1958 to September 1960, a total of over 50,000 gallons of highly hazardous propellants and chemicals and over 1-1/2 tons of explosive solid propellants and 124 leaking and hazardous cylinders were destroyed by the Fire Inspectors without any incident of any kind or any malfunction or injury. During this 20 month period, a total of 524 hours were worked by the Inspectors at the disposal areas burning chemicals and only 66 hours were supervised. This is only 1/8 of the time burning chemicals that a supervisor was present. This means that we must know propellants and their hazards for self preservation and to be able to destroy these propellants without incident. The savings to the Company on disposal has amounted to thousands of dollars.

The Fire Inspectors are also assigned cafeteria inspection to see that the health standards are maintained.

We do the training of all new fire personnel for routine fire duties, inspection, and propellant familiarization.

The Fire Inspectors are also required to answer emergency calls, take standbys, and weld checks when regular shift personnel are not available.

We escort the Army Ordinance Inspectors on tours of inspections of all areas, the Fire Underwriters, and Fire Rating Bureau Inspectors on tours of inspections.

The Inspectors are required to pick-up and transport all highly dangerous chemicals from the Chem. Lab. to the disposal areas.

We work directly with Industrial Engineering to obtain storage facilities and for relocation of fire fighting equipment and various other needs of different areas.

Wednesday afternoon, before the conclusion of the first shift, you will recall that the writer informed you of these events, and that the only additional temporary instructions the writer would issue to fire personnel would be at the time of tanking from truck to tanks. During this tanking, we would follow Mr. Lodge's request and close down flame and sparking devices in the area. This was done Wednesday night in two instances, and caused quite a lot of opposition.

Thursday, 4 September 1958, conference with Mr. W. R. Johnson, D/596-67 Group Leader. Mr. Johnson is in agreement with D/552, and feels that present fire regulations are sufficient to cover all unknown emergencies at PFL. He feels more strict control is necessary on tanking and transfer operations.

Thursday afternoon, conference at your office in Canoga. As a result, before the conclusion of the first shift, verbal and written instructions were issued to Police and Fire personnel to enforce only our own written regulations as we have done in the past, and if other departments have more strict requirements, they may enforce them, but we will not. The writer returned that evening and gave the same instructions to Police and Fire personnel at the beginning of the third shift, because of the illness of the third shift Fire Engineer, leaving a Police Sergeant in charge of fire operations.

Friday morning, 5 September 1958, conference with Mr. Lodge. It was agreed that instructions he had issued were only temporary, and that the whole matter would be turned over to the Propellant Field Applications Group headed by L. D. Weber, D/596-92. The writer phoned Mr. Weber, who is in complete agreement with D/552 fire regulations at present, and desires no change or additions to them at this time. A meeting was arranged for the first part of the week with Mr. Weber to confer on anything else necessary in regard to LOX transfers.

The writer had a meeting with W. J. Cecka, Senior Management Representative, regarding all the foregoing conversations, particularly with reference to Mr. Lodge's report, and Mr. Cecka was of the opinion that this would have to be changed and said that he would attend to the matter.

"ROCKETDYNE EXPOSURE EVALUATION COMMITTEE":
This new committee has been formed as of 25 August 1958. With the advent of new chemicals, fuels, oxidizers, etc., it is imperative that adequate protection of our personnel be made continuously effective in Test, Research and Manufacturing. For this purpose, the Rocketdyne Exposure Evaluation Committee is hereby activated and charged to establish adequate protective standards which, in turn, will be submitted to the Rocketdyne Management Safety Committee for final approval and acceptance.

The minimum membership is appointed and is comprised of the following:

Chairman-Secretary - 596 Analysis and Equipment Group Leader - D. J. Jolicoeur

596 Propellant Field Applications Supervisor - L. D. Weber

552 Industrial Security - Capt. A. W. Miller

551 Medical Director - Dr. A. L. Weller

593 Plant Engineering - E. L. Spearman

551 Safety - Rex B. Gordon

851 Safety, Industrial Hygiene Consultant - J. B. Ficklen

BURN PIT FOR THE DISPOSAL OF DANGEROUS MATERIALS:
Several months ago, while in the Inspection Office, the writer had a large earthen pit constructed near the west boundary line of PTL just below CTL III. This was, and has since been, used to dispose of dangerous chemicals, fuels, oxidizers, explosives, etc. These are burned with quantities of ordinary contaminated fuels. This procedure eliminated the costly method in use at that time, of trucking them from the facility and dumping in the ocean; or by other complicated ways of disposal requiring permits from various official agencies, etc. This usually required from three to six months, and similar materials were accumulating everywhere as a result. Arrangements have been made with Transportation regarding safety practices in handling. Inspection and convoying of these materials is done by the Fire Department. The writer has just been informed by Don Hatz, D/596-62, of the Propellant Field Applications Group that an official procedure is being written on the disposal of hazardous materials. This will incorporate the D/592 disposal method as standard procedure. Large amounts of Hydrazine, UDMH and other materials, which have required expensive neutralization methods, can be disposed of in this manner in the future. For example, 45 drums of assorted mixtures of UDMH and Hydrazine are being disposed of at this time. This would ordinarily require a large amount of Hydrogen Peroxide for the neutralization material.

CONTRACTORS' JUNGLE, AREA II:
This is the area set aside for contractors' shacks and various materials. It has always been an unsightly mess. A fire break has been constructed around this location and intervening brush and grass burned out. Large amounts of accumulated rubble from former contractors has been burned. The area is now safe and contractors will be allowed to burn a limited amount of small material under controls. The whole area is being cleaned up and will be policed regularly in the future.

NITROGEN TETROXIDE, TEMPORARY STORAGE LOCATION:
This has been located in Area II in the open land between the Silvernale Lake and the Contractors' Jungle. Brush and grass were burned from the perimeter and storage of about 30 tons of this material is now accomplished. This relieves the dangerous storage condition that existed around the 80-1 Area.

POWER FAILURE, PPL:
On Saturday evening, 6 September 1958, at 5:32 P.M., the entire facility suffered a power failure as a result of lightning. Edison Company power was off for about one hour. The writer was notified at home by the Control Center Operator and drove up to the facility immediately. Considerable difficulty was experienced in locating the proper Edison Company Office furnishing power to this facility. Telephone numbers listed were out of date. The procedure for notification in event of power failures, etc., at this facility was also found to be out of date, and should be rewritten. This will be taken care of in the immediate future.

A. W. MILLER
Fire Captain
Santa Susana

AWM/lgk

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO	Capt. A. W. Miller	DEPARTMENT	552 - SanSu - Area II
FROM		DEPARTMENT	552 - SanSu - Area II
PHONE	405	DATE	6 November 1958
SUBJECT	TOXIC VAPORS; INCIDENT AT LOWER RESEARCH		

As per Capt. A. W. Miller's request, the writer contacted Mr. Lou Wessels, 596/91, in regard to the SO-1 incident which occurred at Lower Research at approximately 2:00 A.M. 6 November 1958. Mr. Wessels' statement, which was taken from the Research Log, is as follows:

The second shift, with Mr. T. B. Parker, Engineer In Charge, 596/91-2119, began a transfer of SO-1 from the new 5,000 lb. trailer to the 600 lb. trailer. This was the first transfer ever made from the 5,000 lb. trailer.

A leaking flange was noted and a new gasket was made and repairs completed. The transfer continued. Mr. Wessels stated that there was no possible way to determine the amount of SO-1 lost by the leaking flange, but Mr. Parker estimated that the immediate area was contaminated with about one ppm for about 45 minutes. The areas around the Lower Research area showed only slight traces of SO-1 odor. Road blocks were established to keep people out of contaminated areas.

During transfer of SO-1, normal loss due to venting would be approximately two to three lbs. Usually, when venting after a run, the amount of SO-1 lost depends upon pressure, vent size and the nature of the test, and is estimated to be between one-half to two lbs.

The writer spoke to J. A. Hanley, D/552 Investigator, who had contacted Mr. Tom Parker, Engineer In Charge at Lower Research. Mr. Parker's alleged statement to Mr. Hanley is as follows:

A Helium pressure check was made on the 5,000 lb. trailer transfer line. This check revealed a leaking seal. Repairs were made, and the transfer to the Facility tank and the 600 lb. trailer began. No So-1 was lost during the transfer. After completion of transfer, approximately 30 lbs. of liquid SO-1 were lost during the tank venting. Mr. Parker stated this would be a normal amount in the regular venting process.

This was not considered an unusual occurrence. The second shift men did complain of sore throats, but this is not unusual in handling SO-1.

Mr. Stan Greenfield, 596-64, Group Leader, and Mr. Wessels stated that venting will possibly be done by venting into ducting and flushing down with the Firex System. This will eliminate a great deal of odor and contamination in the entire area.

Ex. 34 - 5163

JGC/lgk
CC: File

APPROVED: E Gliddec
E. G. Addeo
Fire Engineer, Inspections

FORM R 6-R-7 REV 1-57

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO	F/E E.G.Addeo	DEPARTMENT	552
FROM		DEPARTMENT	552
PHONE	485	DATE	28 July, 1959

SUBJECT TOXIC VAPORS; INCIDENT AT DELTA 3C.

At your request the writer contacted Mr. George B Kerr 596 -6151 group 66, in regard to Fluorine Vapor incident which occurred at Delta 3C at approximately 10 AM, July 24, 1959. Mr Kerrs statement is as follows, and statements of other personell involved.

Mr. Kerr stated that Pilot control solonoid to the Fluorine main valve on Delta 3C malfunctioned, allowing the fluorine main vulve to open momentarily. This allowed a small amount of Gasseous fluorine to be released in the area. The stand personell cleared the area immediately.

T.J. Shofi 596 - 8055, Engineer on Delta 3C stated that the T.O.C. was not notified do to an oversight. Mr. Shofi stated that he is well aware of the procedure to notify T.O.C. of any venting or similar operation.

atement of Mr. Andrew J. Wilson 596 - 6578 EIC Delta 3B is as follows.
ntal release of F_2 vapors on Delta 3C caused personell to leave the test
area and the vicinity of Delta 3. E.I.C of Delta 3B took advantage of an
ly poor condition and released pressure on Delta 3B oxidizer tank, releasing
ntaminated helium gas. This gas was at low pressure and contained very slight
nts of F_2. The tanks had been opened twice prior to pressurizing. Delta 3B
neer was not notified of presence of personeel in canyon below Delta 3.

. G. Garcia 596-6587 stated that a total of eight men were in the Delta control
ter at the time of the venting. Garcia stated that the Power room contained
avy concentrations of Fluorine odors.

oe Sumers 596-66 stated that no PA announcement was made. Firemen in canyon and stand personell could not be warned do to unforseen incident. Sumers stated that four men reported to Area #2 first aid there names are as follows.
Lee Wells 596-8164, Ed. Liggett 596 - 5363, R.E. Olson 596 - 6399, Edward Hackel 596-8065, group61.
Wells, Liggett, Olson were working in a off stand N2H4 tank at the time of the venting. Hackel was working on Delta 3 stand.

C. Anselmo called a meeting to discuss preventive measures to assure that this type of incident would not happen again.

Ex. 34 - 5164

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO	Capt. A. J. Miller	DEPARTMENT	552 - Zenith - Area II
FROM		DEPARTMENT	552 - Zenith - Area II
PHONE	520	DATE	5 March 1959
SUBJECT	LOWER RESEARCH; INCIDENT RE. TOXID VAPOR		

At 2:50 P.M., 5 March 1959, the writer was called to the Tunnel Area with regard to storage of Chlorine-Tri-Fluoride. While investigating the storage problem, the Lower Research Area fired. The firing was an exotic fuel, or propellant type, firing using Nitrogen Tetroxide.

The writer noticed a cloud of NTO drift over the Chem. Lab A Area and through the Tunnel Area. No warning of any kind was given to the personnel in the Tunnel Area. The writer cleared the area of all personnel, and instructed the personnel to take cover inside when notified of NTO vapors drifting toward their area. At this time, the writer received a whiff of the NTO vapors. The personnel concerned, consisting of five or six men, stated that no notification had been given that Lower Research was firing NTO.

The writer witnessed three firings from the Tunnel Area. Two clouds drifted over Chem. Lab A. A man was working on a power pole at the Chem. Lab and was not warned in sufficient time to get down before the cloud passed over.

The wind seemed to change, and the next cloud went directly through the NASA Area. A check was made at the NASA Area, and personnel were questioned as to what warnings were given them of the NTO firings. These people stated that no warning had been given them at all. The writer instructed the headman to make a P.A. announcement when Lower Research fired, and this was done on the next two runs. The wind again seemed to shift and the clouds drifted through the Peroxide Area. No warnings had been given to the personnel at that area.

The writer contacted Andy Wilson, the Engineer making the tests at Lower Research, and he stated that the TRE and Chem. Lab A had been notified in the morning of the NTO firings. Wilson stated that the Tunnel Area was called by telephone in the morning, and that no one answered the telephone. No other warning was given these people. Wilson also stated that the Peroxide Area personnel had not been notified at all.

Earlier in the day, the writer noticed a large cloud of NTO drift away from the Lower Research Area, and the writer proceeded to investigate. Bill Colwell was contacted, and he stated that a chamber was drained and the water making methods did not adequately take care of the NTO, thereby causing a large cloud of vapor. Colwell stated that this would not happen again.

Ex. 34 - 5165

- -

While investigating the above incident, the writer witnessed the dispensing of MTO from a one-ton cylinder into a small tube-type piece of equipment and a large beaker. This was done by a mechanic and an Engineer. The safety precautions which were taken were as follows: The mechanic had a pair of rubber gloves, a face shield and a cannister type mask. The engineer had no safety gear at all. After the tube was filled, a small amount of MTO was drained into the beaker and the engineer picked up the beaker and carried it away. Fireman J. E. Kervin also witnessed this. Kervin questioned the men with regard to safety precautions and was advised that this was standard procedure, and that they had all the necessary safety equipment needed.

This is the fourth incident involving exotic type propellants witnessed by the writer at Lower Research in the past six months. Each incident has shown a complete disregard for all safety procedures. Also, they have shown a complete disregard for the safety of other personnel in the nearby areas.

This is also the third report on toxic vapor incidents at Lower Research in the past six months that has been submitted by the writer.

JSC/lgk
CC: File

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Capt. A.W. Miller DEPARTMENT 552

FROM DEPARTMENT 552

PHONE 520 DATE March 5, 1959

SUBJECT Toxic Vapor Incident at Lower Research.

At 2.50 P.M. March 5, 1959 the writer was called to the Tunnel Area, in regard to storage of chlorine tri fluoride. While investigating the storage problem, The Lower Research Area fired.The firing was a exotic fuel or propellant type firing, using nitrogen tetroxide.

The writer noticed a cloud of NTO drift over the Chem. Lab A area and through the Tunnel area. No warning of any kind was given to the personel in the Tunnel Area. The writer cleared the area of all personel and instructed the personel to take cover inside when notified of NTO vapors drifting toward their area. The personel consisting of 5 or 6 men stated that no notification had been given that Lower Research was firing NTO.

The writer witnessed three firings from the Tunnel Area, Two clouds drifted over Chem Lab A. A man was working on a power pole at the Chem Lab and was not warned in sufficient time to get down before the cloud passed over.

The wind seemed to change and the next cloud went directly through the the Naka Area. A check was made at the Naka Area amd personel were questioned as to what warnings were given them of the NTO firings. These people stated that no warning had been given them at all. The writer instructed the leadman to make a P.A. announcement when Lower Research fired and this was done on the next 2 runs. The wind again seemed to switch and the clouds drifted through the Peroxide Area, no warnings had been given the personel at that area.

The writer contacted Mr. Andy Wilson engineer making the tests at Lower Research, and he stated that the TRE and Chem Lab. A had been notified in the Morning of the NTO firings. Mr Wilson stated that the Tunnel area was called by telephone in the morning and that no one answered the telephone, no other warning was given these people. Mr. Wilson also stated that the Peroxide Area personel had not been notified at all.

Ex. 34 - 5167

Earlier in the day the writer noticed a large cloud of NTO drift away from the Lower Research area and the writer proceeded to investigate. Mr. Bill Colwell was contacted, and he stated that a chamber was drained and the water washing methois did not adequately take care of the NTO, thereby causing a large cloud of vapors. Colwell stated that this would not happen again.

While investigating the above incident the writer witnessed dispensing of NTO from a one ton cylinder into a small tube type piece of equipment and a large beaker, this was done by a mechanic and a engineer. The saftey precautions taken are as follows. The mechanic had a pair of rubber gloves, a face shield, and a canister type mask. The engineer had no saftey gear at all.After the tube was filled a small amount of NTO was drained into the beaker and the engineer picked up the beaker and carried it away. Fireman J.E. Kervin witnessed this also. Kervin questioned the men in regard to saftey precautions and was told that this was standard proceedure that this was

FORM 8 6-R REV. 1-57

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO DEPARTMENT

FROM DEPARTMENT

PHONE DATE

SUBJECT

all the necessary saftey equipment needed.

This is the fourth incident involving exotic type propellants witnessed by the writer at Lower Research in the past six months, and each incident has shown a complete disregard for all saftey proceedures and the saftey of other personel in the nearby areas.

This is also the third report ~~xxxxxxxxxxxxxx~~ submitted by the writer on Toxic vapor incidents at Lower Reasarch in the past six months.

Ex. 34 - 5168

FORM R 6-R REV. 1-57

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO ~~Capt. A. M. Miller~~ E. H. Ables

FROM

PHONE

ADDRESS

ADDRESS

DATE 11-6-58

SUBJECT S.O.1. Leak at Lower Research

At your request the writer contacted Mr. Lou Wessels 596/91, in regard to the S.O.1. incident,which occured at Lower Research at approximately 2.00A.M. November 6, 1958. Mr. Wessels statement, which was taken from the Research Log is as follows.

The second shift, with Mr. Tom Parker E.I.C. began a transfer of S.O.1. from the new 5000 lb. trailer to the 600 lb. trailer, a leaking flange was noted and a new gasket was made and repairs completed.The transfer continued.
Mr. Wessels stated that no way was possible to determine the amount of S.O.1. lost by the leaking flange, but Mr. Parker estimated that the immediate area was contaminated with about 1 part per million for about 45 minutes.The Lower Research area other than the immediate vicinity showed only slight traces of smell. Road blocks were established to keep people from going to the Bowl area.

This was the first time that the 5000 lb. trailer was used.
During a transfer ~~of S.O.1.~~ ~~the amount~~ of S.O.1 loss due ~~do~~ to venting would be approximitely 2 to 3 lbs. ~~Normal~~ amount of S.O.1. loss depends upon pressure, vent size and the operation. Normal loss in tank venting is ½ to 2 lbs.

This was not considered an unusual occurrence, the second shift personell who have been handling S.O.1. did complain of sore throats , but this is not unusual in handling S.O.1.

Mr. Stan Greenfield and Mr. Lou Wessels stated that venting will be done possibly: by venting into ducting and flushing with the fire X system. This will eliminate a great deal of odor and contamination in the entire area.

Ex. 34 - 5169

FORM R 6-R

Avoid Verbal Orders

INTER-OFFICE CORRESPONDENCE

TO: D.J.Hatz

DEPT. 596-162 PFL

FROM: E.G.Addeo

DEPT. 552 PHONE 520

SUBJECT: Chlorine-trifluoride Cylinders (1 ton cap.) at the Chemical Disposal Area. DATE 2 August 1960

On Monday 1, August 1960 the two one-ton CTF cylinders that have defective valves were weighed by the Fire Department.
The cylinder that was bled-off showed a true weight of 1370 lbs. which indicates that it is empty.
The other cylinder registered a true weight of 1980 lbs. which indicates that it contains about 610 lbs of CTF.
If it is decided to transfer the 610 lbs of CTF into the empty cylinder after the valves are replaced or repaired, please be reminded that we encountered slag that caused a stoppage in the dip tube and it was necessary to roll the cylinder to clear the stoppage.
Please advise the writer what disposition will be made of the CTF.

E.G.Addeo
Fire Lieutenant
Inspections.

Area 1 follow-up.
File.

FORM 5-G-4 REV. 5-57

Ex. 34 - 5170

TO: F E Walls

DEPT.

FROM:

DEPT. PHONE

Avoid Verbal Orders

INTER-OFFICE CORRESPONDENCE

SUBJECT: Cylinders at Disposal Area DATE 8-2-60

The three cylinders at the Burn pit were weighed and the following weights are.

1. NTO cylinder 3370 lbs Gross wt
2. CTF cylinder 1980 lbs
3. CTF cylinder 1370 lbs.

The cylinders are all Marked as to weight.

Form S-G Rev. 3-57

Ex. 34 - 5171

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

DEPARTMENT 552

FROM . J. Ba mer DEPARTMENT 993-761

PHONE 365 DATE 6 April 1962

SUBJECT Letter of Co mendation

1. The Logistic Training Unit would like to commend Mr. Joe Gurican for the outstanding job of instruction on the Unconventional Propellant Handling course, recently con ucted at Edwards Rocket Site. The hours of research and planning necessary to achieve this high standard was greatly appreciated.

2. Should the opportunity arise we would be pleased to work again with Mr. Gurican.

E. J. Hammer
Group Leader
Field Operations

EJB:ckk:mh

Ex. 34 - 5172

FORM R 6-R-6

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Capt. A. W. Miller

FROM

PHONE

SUBJECT

ADDRESS

ADDRESS

DATE

The Writer spoke to J.A. Hannelly, investigator Dept. 552 in regard to SO1 incident at Lower Research. Mr Hannelly had Contacted Tom Parker E & C, at Lower Research. Mr Parker stated that a Helium pressure Check was made on the 5000 lb trailer transfer line, this Check revealed a leaking ~~flange~~ seal. Repairs were made and the transfer to the 100 lb trailer + the facility tank begun. After Completion of the transfer approximately 30 lbs of Raw SO1 was lost ~~during venting~~. No ~~SO1 was lost during~~ ~~[illegible]~~. The wind Conditions died down and the SO1 drifted away from the Lower Research Area ~~[illegible]~~ [illegible] drifted back and the The SO1 fumes apparently drifted back and the Concentration at Lower Research was about 1 ppm or a little more. At the Area + other areas it was [illegible] [illegible]. Tom Parker stated that a loss of 30 lbs during [illegible] was a normal amount. Mr. Parker also stated the [illegible] [illegible] [illegible] took place immediately [illegible] [illegible] that [illegible] the transfer [illegible] [illegible] [illegible] the wind conditions were [illegible] [illegible] [illegible] [illegible] in time [illegible] repairs [illegible] [illegible] 1½ [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

Ex. 34 - 5173

FORM R 6-R

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO

ADDRESS

FROM

ADDRESS

PHONE

DATE

SUBJECT

The Writer feels that this statement Conflicts somewhat with that of Mr. Tom Wenis; but the Writer feels that you are intitled to all the information you can get in regard to this incident, subsequently the two different reports.

Ex. 34 - 5174

FORM R 6-R

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO Capt A.W. Miller ADDRESS

FROM ADDRESS

PHONE DATE 11-6-58

SUBJECT ~~LOX~~ Incident at Lower Research

As per Capt A.W. Millers request the writer contacted Mr. Lou Wessels 596/91 in regard to the 801 incident, which occured at Lower Research at approximately 2. a.m. November 6, 1958. Mr Wessels statement which was taken from the Research Log is as follows.

T.B. E.D.C. d#2119

The second shift, with Mr. Parker 596/91 began a transfer of 801 from the new 5000 lb trailer to the 600 lb trailer. This was the first transfer ever made from the 5000 lb Trailer. A leaking flange was noted and a new gasket was made and repairs Completed. The transfer continued. Mr Wessels stated no way was possible to determine the amount of 801 lost by the leaking flange, but Mr Parker estimated that the immediate area was Contaminated with about 1 ppm for about 45 minutes. The Areas around the Lower Research Area showed only slight traces of 801 odor. Road blocks were established to keep people out of Contaminated Area.

Ex. 34 - 5175

FORM R 6-R

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO ADDRESS

FROM ADDRESS

PHONE DATE Ex. 34 - 5176

SUBJECT

Mr. Wisely stated this was the first time the new 5000 lb trailer was used.

During transfer of SO1 normal loss due to venting would be approximately 2 to 3 lbs. Usually when venting after a run, the amount of SO1 lost depends upon pressure, vent size & the nature of the test and is estimated to be between ½ to 2 lbs.

The Writer spoke to J.A. Hanely Dept 552 investigator who had contacted Mr. Tom Parker E.D.C. at Lewis Research ~~Mr. Parkins statement is as follows:~~ Mr. Parker's alleged statement to Hanley is as follows:

A helium pressure check was made on the 5000 lb trailer transfer line. This check revealed a leaking seal. Repairs were made and the transfer to the facility tank and the 5000 lb trailer began. No SO1 was lost during the transfer. After completion of transfer approximately 30 lbs of liquid SO1 was lost during the tank venting.

FORM R 6-R

ROCKETDYNE

INTER-OFFICE LETTERS ONLY

TO

ADDRESS

FROM

ADDRESS

PHONE

DATE

SUBJECT

Mr. Parker stated this would be a normal amount in the regular venting process.

This was not considered an unusual occurance, the second shift men did complain of sore throats but this is not unusual in handling S.O.1.

Mr. Stan Greenfield 596-6d Group Leader and Mr. Wende stated that venting will possibly be done by venting into ducting and flushing down with the firing system. This will eliminate a great deal of odor and contamination in the entire area

C.C.

Approved

Ex. 34 - 5177

FORM R 6-R

ROCKETDYNE
Skywriter

Ex. 34 - 5178

VOL. XX., No. 30 NORTH AMERICAN AVIATION, INC. JULY 29, 1960

All-Time High in Deposits Noted by Credit Union

Response to the new high dividend rate plus added services finds the L.A. area North American Employees Federal Credit Union in a unique position—that of having too much money.

According to S. T. McCloy, CU manager, employees have been quick to take advantage of the benefits inherent in semi-annual dividend payments and the higher rates paid with the result that hundreds of new members' deposits have swelled the coffers to overflowing.

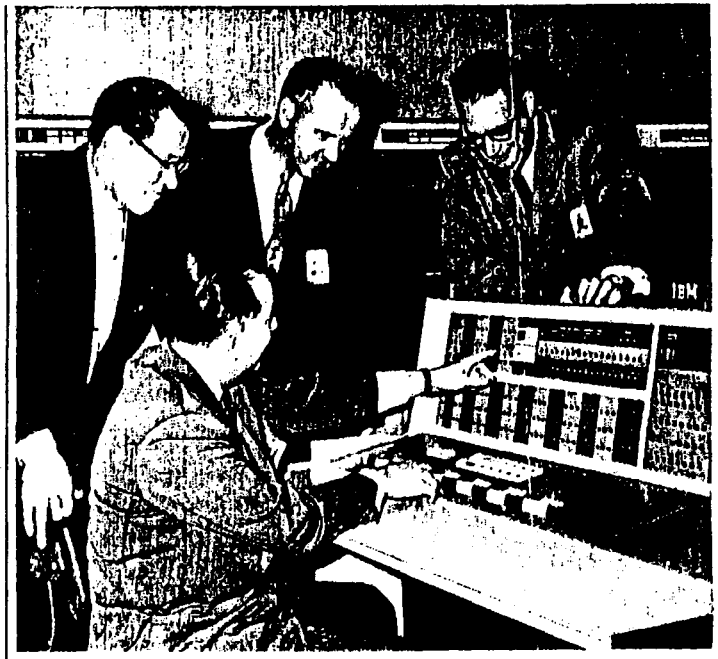
Broad Range

"What we want to do now," McCloy said, "is help those employees in need of loans. We think it's fine that employees are saving through deposits with us. What many of them apparently are not aware of is the broad range of loans available."

Particularly in the fields of real estate loans, McCloy added, the Credit Union is a "money-saver."

Advantages

A more [illegible] advantages of



EXECUTIVE BRIEFING—IBM's C. L. Hardway, seated, explains console of new IBM 7090 computer to Rocketdyne executives, from left: D. M. Carman, Integrated Data Processing manager; C. W. Guy, executive vp; F. J. Knepper, controller.

USE OF THRUST CHAMBER GAS TO DRIVE TURBOPUMPS REPORTED

Additional reliability in high thrust turbo-fed liquid propellant rocket engines through elimination of the gas generator tap-off system to replace the gas generator. [illegible] is means a potential gain [illegible] gine reliability, according [illegible] etdyne.

Ultra-Fast IBM 7090 Received at Canoga

Powerful Computer to Replace Pair of 709s Currently in Use

The newest and most powerful electronic data processing computer available to American industry, International Business Machines Corp.'s 7090, was delivered to the Canoga complex last week. It will replace the two IBM 709s now in use.

"The replacement of the two 709 computers by the 7090 will result in an estimated savings of thousands of dollars per year to Rocketdyne," says D. M. Carman, Integrated Data Processing manager.

"In addition, although the transistorized 7090 computer is replacing two 709s, the computing capacity available to Rocketdyne scientists and engineers will be more than doubled."

Example of Speed

The speed of the IBM 7090 is almost beyond imagination. For example, the work accomplished by the computer in a single hour would require the equivalent of one man using a calculator for over 10 centuries.

taneously read and write electronically at the rate of 3,000,000 bits of information a second through the use of its Multiplexor. It can perform 225,000 additions or subtractions a second.

Core Storage

In 2.18 millionths of a second, it can locate and make ready for use any of 32,768 problem or instruction numbers (each of 10 digits) in the system's magnetic core storage.

While the IBM 7090 is a

(Continued on Page 2, Column 4)

Cecka, Shumsky Appointed New

... Credit Union is a ... money saver."

Advantages

Among the advantages offered by the CU in real estate loans are:

Anyone desiring to buy a lot, for building or investment purposes, may receive a loan of 50% on the appraised value of the unimproved property. Interest charged is at the rate of three-quarters of 1% per month on the unpaid balance.

"What many persons don't realize," McCloy said, "is that on second TD loans we have no minimum length of time for the loan and no penalty for pay-

(Continued on Page 3, Column 3)

thrust turbo-fed liquid propellant rocket engines through elimination of the gas generator system has been achieved in an experimental engine simplification program, C. A. Hauenstein, of Rocketdyne's Advanced Design, recently told American Rocket Society members at a meeting in Columbus, O.

This has been done by tapping the main thrust chamber to obtain hot gases to drive the turbopump, thus eliminating the need for the separate gas generator.

A reduction of approximately 60% in potential problem areas can be achieved by use of the gas generator. This means a potential gain in engine reliability, according to Rocketdyne.

Sixty-four tests with a modified MA-2 sustainer engine were made to demonstrate the feasibility of the tap-off system.

Initial Start

The Rocketdyne tap-off system uses a solid propellant spinner to initially start the turbopump.

Propellants used for the tests were liquid oxygen and RP-1 which are standard for all current first-stage, high-thrust liquid propellant booster engines.

The tap-off experimental

(Continued on Page 2, Column 1)

plished by the computer in a single hour would require the equivalent of one man using a calculator for over 10 centuries.

The amazing speed of the new computer will enable Rocketdyne personnel to successfully attack problems that were not feasible up to this time.

More Powerful

The solid-state 7090 system is approximately six times as powerful as its vacuum-tube predecessor, the IBM 709. The sixfold increase in the computing speed is made possible largely by the use of more than 50,000 ultra-fast transistors in the central processing unit, and the fastest magnetic core storage available.

The new system can simul-

Cecka, Shumsky Appointed to New Rocketdyne Posts

Heading a list of three major organizational changes announced last week by Rocketdyne Executive Vice-President C. W. Guy, W. J. Cecka, Jr., has transferred to Research and Engineering as manager of Applications Engineering, a new title replacing that of Sales Engineering.

Under Cecka's direction, the department will continue to be responsible for planning and conducting Rocketdyne sales programs directed toward devel-

(Continued on Page 2, Column 1)

Quick Thinking by PFL Employee Prevents Injury to Fellow Drivers on Access Road

When Moss Gasparian of the Propulsion Field Laboratory's Machine Shop started homeward down the winding access road in his 1949 Mercury on Wednesday evening, July 13, he had no idea that his life—and the lives of others—was in danger.

Gasparian drove carefully down the hill just as he had hundreds of times before, staying about three car lengths behind the car in front of him.

As he rounded the final bend and the intersection where Valley Circle Drive meets the access road and the bottom of the hill came into view, Gasparian put his foot on the brake pedal.

No Brakes

The brake caught once . . . then went clear to the floor. Gasparian was horror-stricken. He had no brakes! And there wasn't time to grab the emergency brake.

"The car just seemed to take off on its own," he recalls. "It was a terrifying feeling."

Ahead of him were three cars. He knew if he smashed into the rear of the car right in front of him, a chain collision would result. Instinctively, he swerved over into the left lane, praying that no car was coming up the hill. But a car *was* coming up the hill . . . with two passengers.

Quick Decision

Gasparian made his decision in a split second. Rather than crash into the oncoming car he jerked hard on the wheel and drove his brakeless vehicle off the road and into the ravine.

The car rolled over once and came to rest on its side. Gasparian climbed out a window and started walking toward the Security officer who was rushing toward him.

"Had a little accident," said Gasparian, forcing a slight smile. "My brakes failed."

Despite his protest that he was not injured, the Security officer called the ambulance immediately.

The time was 4:37. At 4:40 the ambulance was on its way. At 4:47—just 10 minutes from the time of the accident—Gasparian was in the ambulance and on his way to Northridge Hospital.

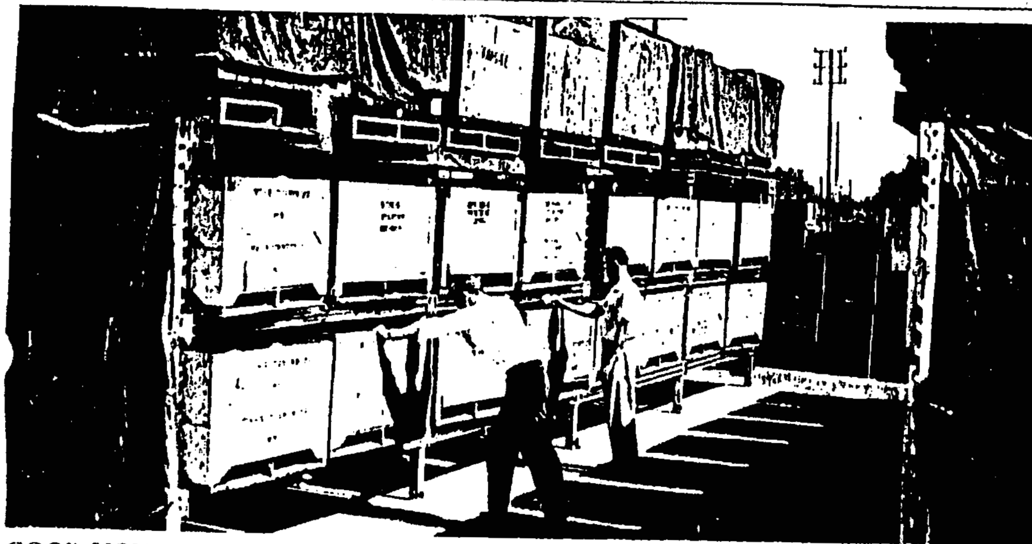
After a thorough check, he was released from the hospital. Miraculously, he had survived the accident without a scratch!

Commendation

According to C. N. Cochran, PFL Machine Shop supervisor and Gasparian's boss, "Gasparian's quick thinking and course of action undoubtedly saved other persons from serious injury. He is to be commended for thinking of others rather than himself."

Says Gasparian: "I guess it was just my lucky day."

SIGN TO REMEMBER—Moss Gasparian, who narrowly escaped injury when his brakes failed on the road from PFL, dusts off sign at bottom of road for benefit of other motorists. Gasparian's quick thinking in accident saved others from injury.



GOOD HOUSEKEEPING—Ron Weber, left, and A. H. Barnett, of Material Services, straighten up outside storage area as part of good housekeeping program. The Rocketdyne Canoga department was recently singled out for demonstrating "outstanding improvement" in housekeeping.

W. J. Cecka, Jr.

A. A. Shumsky

Cecka, [illegible] ımsky Named . . .

(Continue[illegible] Page 1, Column 5)

[illegible] new [illegible] uirements and dent in charge of Rocketdyne's Specialty Products program

Material Services Honored for Work

Material Services was singled out for special recognition this week by Conservationist George Haver for the outstanding improvement the department has achieved in Rocketdyne's Housekeeping program.

Haver pointed out that the standards established by Material Services were especially noteworthy because of the large volume of material the department handles.

Material Services receives hundreds of parts on a continuing basis, which they store and deliver.

"It cannot be stressed too strongly that a clean, neat work ing area increases the safety factor, creates highe[illegible] morale and greater efficiency, [illegible] Haver.

New 7090 Computer Contributing to Key NASA and USAF Projects

IBM 7090 computers like that received by Rocketdyne last week are making major contributions to NASA missiles as well as Air Force manned aircraft projects in other key research programs.

At the Marshall Space Flight Center, Huntsville, Ala., NASA scientists are using a similar computer to make detailed studies on the clustering of eight Rocketdyne engines which will give the free world's biggest space vehicle its 1,500,000 pounds of thrust booster power.

Simulated Flights

Saturn will be "flown" thousands of times by the 7090 as scientists explore design modifications and their effect on actual flight in space. They will explore new areas of research opened up by clustering of eight of the powerful H-1 engines.

Vibration and heat transfer problems caused by interaction of the engines will be programmed on the 7090 in connection with the 30,000,000 horsepower generated by the booster in static firing tests.

At North American's Los Angeles Division a similar computer is playing a major role in the development of the B-70 Valkyrie intercontinental bomber which will cruise for long distances at high supersonic speeds.

Through the microwave tie-up between Rocketdyne's computer center and the Los Angeles Division, the new 7090 at Canoga will also be available for B-70 and other manned weapon system projects if required.

Canoga 7090 Computer . . .

(Continued from Page 1, Column 5)

general purpose data processing system, it was built with special attention to the needs of engineers and scientists, who find computation demands multiplying rapidly.

Despite its great speed advantage, the 7090 takes up less floor space than the 709. The 7090's construction also provides a large reduction in power consumption and air conditioning requirements. It is of modular design for easy maintenance and accessibilty.

Each unit consists of modular sliding frames with two vertical pullout racks. When the racks are drawn out from the frame, they may be opened to permit access to hundreds of transistor cards and test points.

Rocketdyne is the second division of North American to get a 7090 computer. The LA Division received one last month. Another 7090 is scheduled for delivery to the Gener[illegible] [illegible]fices in September for use [illegible] mercial applications.

Rep. Holt Reports on Rocketdyne's Role in Progress

Members of the House of Representatives were told of Rocketdyne's major role in America's outer space explorations recently by California Rep Joe Holt of the 22nd District.

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Ceeka, Shumsky Named . . .

(Continued from Page 1, Column 5)

oping new requirements and new applications for Rocketdyne.

Ceeka replaces Alan Andrews, who has been appointed Rocketdyne senior representative at Dayton.

A. A. Shumsky has been appointed assistant to the president in charge of Rocketdyne's Specialty Products program which has been initiated to design, produce, and sell end items for applications that are independent of Rocketdyne propulsion systems.

In addition, he will serve as chairman of the New Products Planning Board.

NAA Newswire

AUTONETICS — Appointment of Robert T. Jones to the newly created post of director of International Operations was announced by President John Moore. His duties will include export sales and licensing agreements with foreign manufacturers.

* * *

MISSILE—A commendation for the division on its scientific contributions to the observation of earth satellites was published this week in a letter fro ; the director of the National pace Surveillance Control Center. MD was cited for supplying "valuable observations of Earth satellite positions which have been used in the prediction of these objects."

* * *

COLUMBUS—A new lamp, smaller than a postage stamp yet providing as much light as a 150-watt bulb, has been developed for use in the wingtips of the A3J Vigilante, the division announced this week.

* * *

LOS ANGELES — Gen. Thomas D. White, Air Force chief of Staff, said the B-70 bomber is a "very practical" weapon needed by the U. S. and "there is no shadow of a doubt about it working." Gen. White made his remarks in a copyrighted interview in *U. S. News and World Report.*

* * *

ATOMICS INTERNATIONAL—Organic cooled nuclear reactors have the potential of competing with conventional energy sources for almost every major power application, Dr. Sidney Siegel, AI vice-president, told the third Inter-American Symposium on the Peaceful Application of Nuclear Energy in Rio de Janeiro.

New Engine . . .

(Continued from Page 1, Column 3)

work was performed under a contract for product improvement of liquid propellant pro- uction engines sponsored by the Ballistic Missile Division of the Air Research and Development Command. Included in the program is the company's X series of engines which have been tested with as few as eight moving parts.

New concepts proven in such research have also contributed to the simplification of the H-1 Saturn engine and new higher thrust MA-3 Atlas propulsion system.

Michigan Alumni to Meet Aug. 8

North American alumni of the University of Michigan will meet at the Ram's Horn Restaurant, 16705 Ventura Blvd., Encino, on Aug. 8.

Dinner will be served at 7 p.m. Guest speaker will be Dr. Robert Ramsay, president of Woodbury College.

Alumni interested in attending should contact Phil Dietz, Ext. 2014 at Canoga.

greater efficiency," said Hege.

America's outer space explorations recently by California Rep. Joe Holt of the 22nd District.

"The story of Rocketdyne is an example of American free enterprise and our government working together to keep America strong militarily," said Holt.

Current Projects

Holt went on to tell of Rocketdyne's organization, the division's extensive operations in making rocket engines, and cited the current projects in which Rocketdyne is now engaged.

Holt's remarks were incorporated into the July 15, 1960, Congressional Record.

INSPECTION TOUR—Maj. Gen. David Wade, CG, First Missile Division, Vandenberg AFB, inspects new stainless steel thrust chamber capable of 45,000 pounds of thrust. With the general, from left: Rocketdyne's C. A. Hatfield, D. W. Hege, C. J. Stratton and Capt. Allen Hancock during visit to Rocketdyne.

...delivery to the General Dynamics in September for use in commercial applications.

Project Reports Discussed at LA PERT Symposium

Current and potential applications of the recently developed Program Evaluation Review Technique were discussed at a symposium held yesterday at the Aerospace Industries Assn.'s western headquarters building in Los Angeles.

Chairman

According to GO's Bill Hummel, who heads the AIA's Government Reports Committee and served as chairman for the symposium, well over 200 industry reps, including members from all North American divisions, attended the one-day meeting.

PERT involves breaking down the complexities of a weapon system into a sequence of small steps. As the time involved in each of the steps is estimated by scientists and engineers associated with the project, they are transcribed on IBM cards and fed into a computer.

Continuous Reports

As the project gets under way, continuous reports are filed, transcribed, and fed into the computer, which is able to evaluate the impact on the overall program of any changes in any step on the schedule.

Immediate attention can be concentrated by management on the problem areas, enhancing the possibility of completing the program on schedule.

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